

FILEID**BASRSET

BBBBBBBB	AAAAAA	SSSSSSS	RRRRRRR	SSSSSSS	EEEEEEEEE	TTTTTTTTT
BBBBBBBB	AAAAAA	SSSSSSS	RRRRRRR	SSSSSSS	EEEEEEEEE	TTTTTTTTT
BB	BB	AA	AA	SS	RR	TT
BB	BB	AA	AA	SS	RR	TT
BB	BB	AA	AA	SS	RR	TT
BB	BB	AA	AA	SS	RR	TT
BBBBBBBB	AA	AA	SSSSS	RRRRRRR	SSSSSS	TTT
BBBBBBBB	AA	AA	SSSSS	RRRRRRR	SSSSSS	TTT
BB	BB	AAAAAAA	SS	RR	EE	TT
BB	BB	AAAAAAA	SS	RR	EE	TT
BB	BB	AA	AA	SS	RR	TT
BB	BB	AA	AA	SS	RR	TT
BBBBBBBB	AA	AA	SSSSSS	RR	SSSSSS	TTT
BBBBBBBB	AA	AA	SSSSSS	RR	SSSSSS	TTT

LL	IIIIII	SSSSSSS
LL	IIIIII	SSSSSSS
LL	II	SS
LLLLLLLLL	IIIIII	SSSSSSS
LLLLLLLLL	IIIIII	SSSSSSS

```
1 0001 0 MODULE BASSRSET (
2 0002 0           IDENT = '1-005'
3 0003 0           ) =
4 0004 1 BEGIN
5
6 0006 1 ****
7 0007 1 *
8 0008 1 * COPYRIGHT (c) 1978, 1980, 1982, 1984 BY
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25 0025 1 *
26 0026 1 *
27 0027 1 ****
28 0028 1 .
29 0029 1 .
30 0030 1 ++
31 0031 1 FACILITY: String support library
32 0032 1
33 0033 1 ABSTRACT:
34 0034 1
35 0035 1 Copy one string of any class or dtype to another string of any class
36 0036 1 or dtype. Right justify the source string in the destination string
37 0037 1 using fixed length semantics on the destination string, ie. do not
38 0038 1 alter the current length for dynamic strings (or varying strings if
39 0039 1 they are implemented). Blank pad or truncate on the left.
40 0040 1
41 0041 1 ENVIRONMENT: User mode, AST level or not or mixed
42 0042 1
43 0043 1 AUTHOR: R. Will, CREATION DATE: 02-Apr-79
44 0044 1
45 0045 1 MODIFIED BY:
46 0046 1
47 0047 1     R. Will, 02-Apr-79: VERSION 01
48 0048 1     01 - original
49 0049 1     1-002 - Use STR$K_FILL_CHAR. JBS 15-APR-1979
50 0050 1     1-003 - Add string by ref entry. RW 18-JUL-79
51 0051 1     1-004 - String clean up, don't use $STR$ macros. RW 29-Oct-79
52 0052 1     1-005 - Free temp string before exiting. Not doing this caused a
53 0053 1         field test site's large file update to run out of virtual
54 0054 1         storage after 8 hours! JBS 10-MAR-1980
55 0055 1     --
56 0056 1
57 0057 1 !<BLF/PAGE>
```

```

59 0058 1 ! SWITCHES:
60 0059 1
61 0060 1
62 0061 1
63 0062 1 SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
64 0063 1
65 0064 1
66 0065 1 ! LINKAGES:
67 0066 1
68 0067 1
69 0068 1 REQUIRE 'RTLIN:STRLNK'; ! Use require file with string linkage
70 0253 1
71 0254 1
72 0255 1 ! TABLE OF CONTENTS:
73 0256 1
74 0257 1
75 0258 1 FORWARD ROUTINE
76 0259 1 BASS$RSET : NOVALUE,
77 0260 1 BASS$RSET_R : NOVALUE; ! Copy right justified using fixed sem
78 0261 1 ! RSET with string by ref
79 0262 1
80 0263 1 ! INCLUDE FILES:
81 0264 1
82 0265 1
83 0266 1 REQUIRE 'RTLIN:RTLPSECT'; ! Use to declare PSECTS
84 0361 1
85 0362 1 LIBRARY 'RTLSTARLE'; ! STARLET library for macros and symb
86 0363 1
87 0364 1
88 0365 1 ! MACROS: NONE
89 0366 1
90 0367 1
91 0368 1 ! EQUATED SYMBOLS: NONE
92 0369 1
93 0370 1
94 0371 1 ! PSECT DECLARATIONS
95 0372 1
96 0373 1 DECLARE_PSECTS (BAS);
97 0374 1
98 0375 1 ! OWN STORAGE: NONE
99 0376 1
100 0377 1
101 0378 1 ! EXTERNAL REFERENCES:
102 0379 1
103 0380 1
104 0381 1 ! EXTERNAL ROUTINE
105 0382 1 STR$FREE1 DX_R4 : STR$JSB_GETFRE, ! deallocate a string
106 0383 1 STR$COPY_DX_R8 : STR$JSB_COPY_DX; ! copy string to and from temp
107 0384 1

```

```
: 109      0385 1 GLOBAL ROUTINE BASSRSET (
: 110          0386 1     DEST_DESC,
: 111          0387 1     SRC_DESC)
: 112          0388 1 : NOVALOE =
: 113          0389 1
: 114          0390 1 ++
: 115          0391 1 FUNCTIONAL DESCRIPTION:
: 116          0392 1
: 117          0393 1 This routine copies one string of any class or dtype to
: 118          0394 1 a second string of any class or dtype but which is treated as
: 119          0395 1 a fixed length string. The source is right justified in the
: 120          0396 1 destination with truncation or blank padding on the left.
: 121          0397 1 This is accomplished by creating a temporary string with
: 122          0398 1 the attributes of the destination string and using the temporary
: 123          0399 1 so that the string cannot be moved from under us, since we
: 124          0400 1 can't use the $STR$ interlock macros.
: 125          0401 1
: 126          0402 1 FORMAL PARAMETERS:
: 127          0403 1
: 128          0404 1     DEST_DESC.wx.dx      pointer to destination string descriptor
: 129          0405 1     SRC_DESC.rx.dx    pointer to source string descriptor
: 130          0406 1
: 131          0407 1 IMPLICIT INPUTS:
: 132          0408 1     NONE
: 133          0409 1
: 134          0410 1 IMPLICIT OUTPUTS:
: 135          0411 1
: 136          0412 1     NONE
: 137          0413 1
: 138          0414 1
: 139          0415 1 ROUTINE VALUE:
: 140          0416 1 COMPLETION CODES:
: 141          0417 1
: 142          0418 1     NONE
: 143          0419 1
: 144          0420 1 SIDE EFFECTS:
: 145          0421 1
: 146          0422 1 This routine calls STR$COPY and therefore may signal any of its errors.
: 147          0423 1 It may also allocate and/or deallocate space in the destination string.
: 148          0424 1 It will allocate and deallocate space for a temporary string.
: 149          0425 1
: 150          0426 1 --
: 151          0427 1
: 152          0428 2 BEGIN
: 153          0429 2
: 154          0430 2 MAP
: 155          0431 2     DEST_DESC : REF BLOCK [8, BYTE];
: 156          0432 2
: 157          0433 2 MAP
: 158          0434 2     SRC_DESC : REF BLOCK [8, BYTE];
: 159          0435 2
: 160          0436 2 LOCAL
: 161          0437 2     TEMP_DESC : BLOCK [8, BYTE];
: 162          0438 2
: 163          0439 2 +
: 164          0440 2 ! Copy the destination string to a temporary so that no one else may
: 165          0441 2 ! change its length or pointer if it is a dynamic string.
```

```

166      0442 2 !-
167      0443 2   TEMP_DESC [DSC$W_LENGTH] = 0;
168      0444 2   TEMP_DESC [DSC$B_DTYPE] = DSC$K_DTYPE_T;
169      0445 2   TEMP_DESC [DSC$B_CLASS] = DSC$K_CLASS_D;
170      0446 2   TEMP_DESC [DSC$A_POINTER] = 0;
171      0447 2   STR$COPY_DX_R8 (TEMP_DESC [0, 0, 0, 0], DEST_DESC [0, 0, 0, 0]);
172      0448 2 !+
173      0449 2 | Treat the temporary destination as a fixed length string
174      0450 2 |
175      0451 2 |
176      0452 2 IF .TEMP_DESC [DSC$W_LENGTH] LEQ .SRC_DESC [DSC$W_LENGTH]
177      0453 2 + The source string is longer than the destination
178      0454 2 | string. Compute the amount of the source string which must
179      0455 2 | be truncated from the left and move the source starting there.
180      0456 2 |
181      0457 2 |
182      0458 2 THEN
183      0459 2   CH$MOVE (
184      0460 2     .TEMP_DESC [DSC$W_LENGTH],           ! copy the string
185      0461 2     CH$PLUS (                         move enuf chars to fill dest
186      0462 2       .SRC_DESC [DSC$A_POINTER],        start after trunc in source
187      0463 2       .SRC_DESC [DSC$W_LENGTH]), -.TEMP_DESC [DSC$W_LENGTH],
188      0464 2     .TEMP_DESC [DSC$A_POINTER])          ! start of dest string
189      0465 2 +
190      0466 2 | The source string is shorter than or the same length as the
191      0467 2 | destination. Fill the number of characters to pad
192      0468 2 | and then move the source.
193      0469 2 |
194      0470 2 ELSE
195      0471 2   CH$MOVE (
196      0472 2     .SRC_DESC [DSC$W_LENGTH],           ! fill the temp right justified
197      0473 2     .SRC_DESC [DSC$A_POINTER],        move length of source
198      0474 2     CH$FILL (',',                         start at beginning of source
199      0475 2     .TEMP_DESC [DSC$W_LENGTH] - .SRC_DESC [DSC$W_LENGTH],    start move after pad blanks
200      0476 2     .TEMP_DESC [DSC$A_POINTER]));          !
201      0477 2
202      0478 2 !+
203      0479 2 | Now put the string in the true destination
204      0480 2 |
205      0481 2   STR$COPY_DX_R8 (DEST_DESC [0, 0, 0, 0], TEMP_DESC [0, 0, 0, 0]);
206      0482 2 +
207      0483 2 | Free the temporary string.
208      0484 2 |
209      0485 2   STR$FREE1_DX_R4 (TEMP_DESC [0, 0, 0, 0]);
210      0486 1   END:                                !End of BASSRSET

```

```

.TITLE BASSRSET
.IDENT \1-005\

.EXTRN STR$FREE1_DX_R4
.EXTRN STR$COPY_DX_R8

.PSECT _BASS$CODE,NOWRT, SHR, PIC,2
.ENTRY BASSRSET, Save R2,R3,R4,R5,R6,R7,R8,R9
.MOVAB STR$COPY_DX_R8, R9

```

		5E	020E0000	04	C2 00009	SUBL2	#4 SP	: 0443
			04	8F	DD 0000C	PUSHL	#34471936	: 0446
		50		AE	D4 00012	CLRL	TEMP_DESC+4	: 0447
		51	04	6E	9E 00015	MOVAB	TEMP_DESC, R0	
				AC	DD 00018	MOVL	DEST_DESC, R1	
		08	56	69	16 0001C	JSB	STR\$COPY DX R8	
			08	AC	D0 0001E	MOVL	SRC_DESC, R8	: 0462
			BC	6E	B1 00022	CMPW	TEMP_DESC, @SRC_DESC	: 0452
				15	1A 00026	BGTRU	1\$	
			50	BC	3C 00028	MOVZWL	@SRC_DESC, R0	
			50	04	A6 C0 0002C	ADDL2	4(R6), R0	: 0462
			51	6E	3C 00030	MOVZWL	TEMP_DESC, R1	
		04	BE	50	51 C2 00033	SUBL2	R1, R0	
				60	6E 28 00036	MOVC3	TEMP_DESC, (R0), @TEMP_DESC+4	: 0464
					17 11 0003B	BRB	2\$: 0462
				50	6E 3C 0003D	1\$: MOVZWL	TEMP_DESC, R0	: 0475
				51	08 BC 3C 00040	MOVZWL	@SRC_DESC, R1	
		50	20	50	51 C2 00044	SUBL2	R1, R0	
				6E	00 2C 00047	MOVC5	#0, (SP), #32, R0, @TEMP_DESC+4	: 0476
			63	04	04 BE 0004C			
				B6	08 BC 28 0004E	MOVC3	@SRC_DESC, @4(R6), (R3)	: 0474
				51	6E 9E 00054	MOVAB	TEMP_DESC, R1	: 0481
				50	04 AC D0 00057	MOVL	DEST_DESC, R0	
					69 16 0005B	JSB	STR\$COPY DX R8	
				50	6E 9E 0005D	MOVAB	TEMP_DESC, R0	: 0485
				00000000G	00 16 00060	JSB	STR\$FREE1 DX R4	
					04 00066	RET		: 0486

; Routine Size: 103 bytes, Routine Base: _BAS\$CODE + 0000

: 211 0487 1

```
: 213 0488 1 GLOBAL ROUTINE BASSRSET_R (           ! Copy right justified
: 214 0489 1     DEST_DESC,                      ! Pointer to dest str desc
: 215 0490 1     SRC_LENGTH,                   ! Length of source string
: 216 0491 1     SRC_POINTER)                  ! Pointer to source string
: 217 0492 1     : NOVALUE =
: 218 0493 1
: 219 0494 1     ++
: 220 0495 1     FUNCTIONAL DESCRIPTION:
: 221 0496 1
: 222 0497 1     This routine copies one string of any class or dtype to
: 223 0498 1     a second string of any class or dtype but which is treated as
: 224 0499 1     a fixed length string. The source is right justified in the
: 225 0500 1     destination with truncation or blank padding on the left.
: 226 0501 1
: 227 0502 1     FORMAL PARAMETERS:
: 228 0503 1
: 229 0504 1     DEST_DESC.wx.dx      pointer to destination string descriptor
: 230 0505 1     SRC_LENGTH.rlu.v    source string length
: 231 0506 1     SRC_POINTER.rlu.v   pointer to source string
: 232 0507 1
: 233 0508 1     IMPLICIT INPUTS:
: 234 0509 1
: 235 0510 1     NONE
: 236 0511 1
: 237 0512 1     IMPLICIT OUTPUTS:
: 238 0513 1
: 239 0514 1     NONE
: 240 0515 1
: 241 0516 1     ROUTINE VALUE:
: 242 0517 1     COMPLETION CODES:
: 243 0518 1
: 244 0519 1     NONE
: 245 0520 1
: 246 0521 1     SIDE EFFECTS:
: 247 0522 1
: 248 0523 1     This routine calls STR$COPY and therefore may signal any of its errors.
: 249 0524 1     It may also allocate and/or deallocate space in the destination string.
: 250 0525 1     It will allocate and deallocate space for a temporary string.
: 251 0526 1
: 252 0527 1     --
: 253 0528 1
: 254 0529 2     BEGIN
: 255 0530 2
: 256 0531 2     MAP
: 257 0532 2     DEST_DESC : REF BLOCK [8, BYTE];
: 258 0533 2
: 259 0534 2     LOCAL
: 260 0535 2     TEMP_DESC : BLOCK [8, BYTE];
: 261 0536 2
: 262 0537 2     +
: 263 0538 2     Copy the destination string to a temporary to preserve its length, so
: 264 0539 2     that no one may move the string from under us or change it's length
: 265 0540 2     while we are processing it.
: 266 0541 2     -
: 267 0542 2     TEMP_DESC [DSC$W_LENGTH] = 0;
: 268 0543 2     TEMP_DESC [DSC$B_DTYPE] = DSC$K_DTYPE_T;
: 269 0544 2     TEMP_DESC [DSC$B_CLASS] = DSC$K_CLASS_D;
```

```

270 0545 2      TEMP_DESC [DSC$A_POINTER] = 0;
271 0546 2      STR$COPY_DX_R8 (TEMP_DESC [0, 0, 0, 0], DEST_DESC [0, 0, 0, 0]);
272 0547 2
273 0548 2      Treat the destination as a fixed length string
274 0549 2
275 0550 2
276 0551 2      IF .TEMP_DESC [DSC$W_LENGTH] LEQ .SRC_LENGTH
277 0552 2
278 0553 2      The source string is longer than the destination
279 0554 2      string. Compute the amount of the source string which must
280 0555 2      be truncated from the left and move the source starting there.
281 0556 2
282 0557 2      THEN
283 0558 2          CH$MOVE (.TEMP_DESC [DSC$W_LENGTH],           ! move enuf chars to fill dest
284 0559 2          .SRC_POINTER +                           ! start after trunc in source
285 0560 2          .SRC_LENGTH - .TEMP_DESC [DSC$W_LENGTH], .TEMP_DESC [DSC$A_POINTER])   ! start of dest string
286 0561 2
287 0562 2
288 0563 2      The source string is shorter than or the same length as the
289 0564 2      destination. Fill the number of characters to pad
290 0565 2      and then move the source.
291 0566 2
292 0567 2      ELSE
293 0568 2          CH$MOVE (.SRC_LENGTH,                      ! move length of source
294 0569 2          .SRC_POINTER,                         ! start at beginning of source
295 0570 2          CH$FILL (' ',                         ! start move after pad blanks
296 0571 2          .TEMP_DESC [DSC$W_LENGTH] - .SRC_LENGTH,    !
297 0572 2          .TEMP_DESC [DSC$A_POINTER]));
```

+ Now copy the temporary back into the destination

- STR\$COPY_DX_R8 (DEST_DESC [0, 0, 0, 0], TEMP_DESC [0, 0, 0, 0]);

+ Free the temporary string.

- STR\$FREE1_DX_R4 (TEMP_DESC [0, 0, 0, 0]);

END; !End of BASSRSET_R

08	AC	6E	10	00	ED	0001E	.ENTRY	BASSRSET_R, Save R2,R3,R4,R5,R6,R7,R8,R9	: 0488			
		59	00000000G	00	9E	00002	MOVAB	STR\$COPY_DX_R8, R9				
		5E		04	C2	00009	SUBL2	#4, SP	: 0542			
			020E0000	8F	DD	0000C	PUSHL	#34471936	: 0545			
				04	AE	D4	CLRL	TEMP_DESC+4	: 0546			
		50		6E	9E	00015	MOVAB	TEMP_DESC, R0				
		51	04	AC	D0	00018	MOVL	DEST_DESC, R1				
				69	16	0001C	JSB	STR\$COPY_DX_R8				
				00	ED	0001E	CMPZV	#0, #16,-TEMP_DESC, SRC_LENGTH	: 0551			
				13	14	00024	BGTR	1S				
		50	0C	AC	08	AC	ADDL3	SRC_LENGTH, SRC_POINTER, R0	: 0560			
				51		C1	00026	MOVZWL	TEMP_DESC, R1			
				50		6E	SUBL2	R1, R0				
		04	BE	60		51	MOVC3	TEMP_DESC, (R0), @TEMP_DESC+4				
						28						

BAS\$RSET
1-005

M 15
16-Sep-1984 01:06:20 VAX-11 Bliss-32 v4.0-742
14-Sep-1984 11:56:37 [BASRTL.SRC]BASRSET.B32;1

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(4)

50	20	50	14	11 00037	BRB	2\$: 0558
		50	08	3C 00039 1\$:	MOVZWL	TEMP DESC, R0	: 0571
		6E	AC	C2 0003C	SUBL2	SRC_LENGTH, R0	
			00	2C 00040	MOVCS	#0,-(SP), #32, R0, @TEMP_DESC+4	: 0572
		63	0C	04 BE 00045	MOVC3	SRC_LENGTH, @SRC_POINTER, (R3)	: 0570
			BC	08 AC 00047	MOVAB	TEMP DESC, R1	: 0577
			51	6E 9E 0004D 2\$:	MOVL	DEST DESC, R0	
			50	04 AC D0 00050	JSB	STR\$COPY DX R8	
				69 16 00054	MOVAB	TEMP DESC, R0	: 0581
			50	6E 9E 00056	JSB	STR\$FREE1 DX_R4	
				00000000G 00 16 00059	RET		: 0582
				04 0005F			

: Routine Size: 96 bytes, Routine Base: _BASS\$CODE + 0067

: 308 0583 1
: 309 0584 1 END
: 310 0585 1
: 311 0586 0 ELUDOM

: !End of module

PSECT SUMMARY

Name	Bytes	Attributes
_BASS\$CODE	199	NOVEC,NOWRT, RD , EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)

Library Statistics

File	-----	Symbols	-----	Pages	Processing
	Total	Loaded	Percent	Mapped	Time
\$_\$255\$DUA28:[SYSLIB]STARLET.L32;1	9776	6	0	581	00:01.1

COMMAND QUALIFIERS

: BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LISS:BASRSET/OBJ=OBJ\$:\$BASRSET MSRC\$:\$BASRSET/UPDATE=(ENH\$:\$BASRSET)

: Size: 199 code + 0 data bytes
: Run Time: 00:07.4
: Elapsed Time: 00:17.8
: Lines/CPU Min: 4744
: Lexemes/CPU-Min: 23546

BASSRSET
1-005

N 15
16-Sep-1984 01:06:20 VAX-11 Bliss-32 v4.0-742

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: Memory Used: 63 pages
: Compilation Complete

0030 AH-BT13A-SE
VAX/VMS V4.0

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BASRA050
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LTS

BASRECPRO
LTS

BASRESTOR
LTS BASRIGHT
LTS